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Medium resolution spectroscopy of the supergiant O31f Cyg OB2 No. 7

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Abstract

We examine the feasibility of using medium resolution spectra for determining the parameters of the atmospheres of hot stars by means of numerical simulations. We chose the star Cyg OB2 No. 7 as a test object and obtained its spectrum (λ/Δλ = 2500) with the Russian-Turkish RTT150 telescope. The CMFGEN code was used to construct a model of the atmosphere of Cyg OB2 No. 7. For the first time we have detected the NIV λλ7103.-2-7129.2 lines in the spectrum of this star and used them to determine the physical parameters of the wind. The rate of mass loss measured using the Hα line exceeds the loss rate measured using lines from the wind. This indicates that the wind is nonuniform, apparently owing to rotation. © 2012 Springer Science+Business Media New York.

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Keywords

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